BusBuster

MY2024> Ford

BusBuster PRO

Homologation and Trailer Interface

Installation Manual

Introduction

This manual explains how to install the BusBuster PRO interface in a Ford F-150 model year 2024 and newer.

This interface supports the homologation of the vehicle.
It also provides the necessary outputs for a full EU trailer setup.

The interface adjusts the vehicle's coding to match the converted navigation system,
changed lighting, and trailer configuration, and stores these settings.

These settings are retained even when the vehicle's configuration is restored using factory tools.

After installation and switching languages, it will still show the message
"Some languages are not supported on one or more systems".
You can ignore this message, and it is still possible to switch the languages on the radio.

Unfortunately, the IPC will not switch languages if it does not support them.


Functions

- Enable switching of the language.
- Perform necessary recoding for navigation conversion.
- Perform necessary recoding to adapt the lights to EU specs.
- Protect the coding against factory resets.
- Enable full navigation on limited/online-nav vehicles.
- Enable rear fog light control via the OEM light switch.
- Add outputs to complement the OEM trailer plug for a full 13-pin EU trailer.
- Provide fault detection for trailer turn signals.
- OEM trailer detection. (Disable PDC, lane warnings, vehicles rear foglight etc)
- Ensure compatibility with our trailer harness for quick installation.
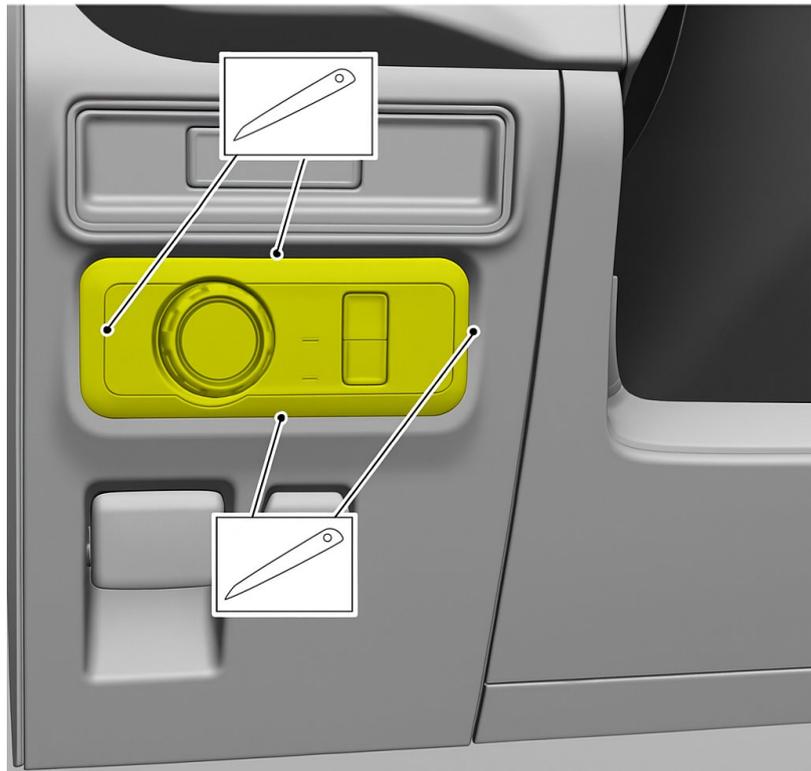
Installation

TRM Connections

- Remove the black (lower) connector from the TRM module.

- Connect the vehicle's connector to the supplied **T-harness**.

- Connect the other end of the **T-harness** back into the TRM module.


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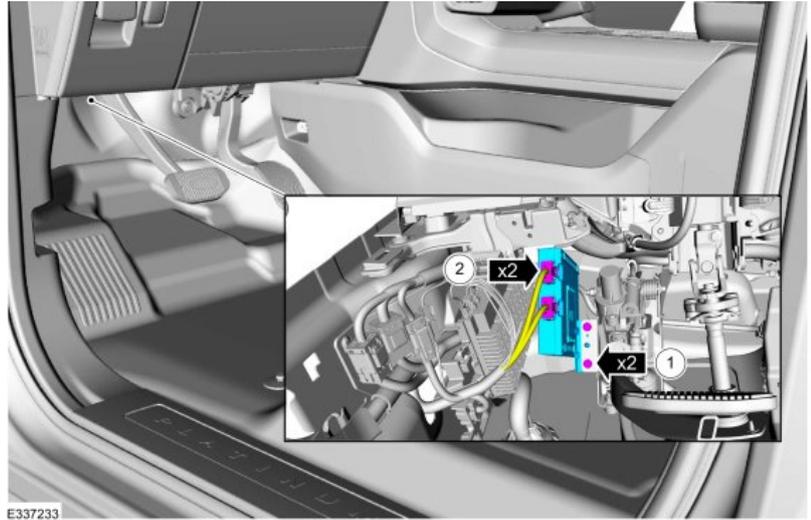
Light Switch Connections

Optional: Only required if adding a rear fog light.

- Use plastic trim removal tools to remove the light switch.

- Unplug the connector from the back.
- Connect the vehicle's connector to the supplied **T-harness**.

- Connect the other end of the **T-harness** back into the light switch.
- If the OEM light switch does not have a front fog button,
  place the supplied sticker to indicate the switch function.

OBD Connections

- Remove the OBD socket from the metal frame.
- Connect the vehicle's connector to the supplied **T-harness**.

- Mount the other end of the **T-harness** back into the metal frame.
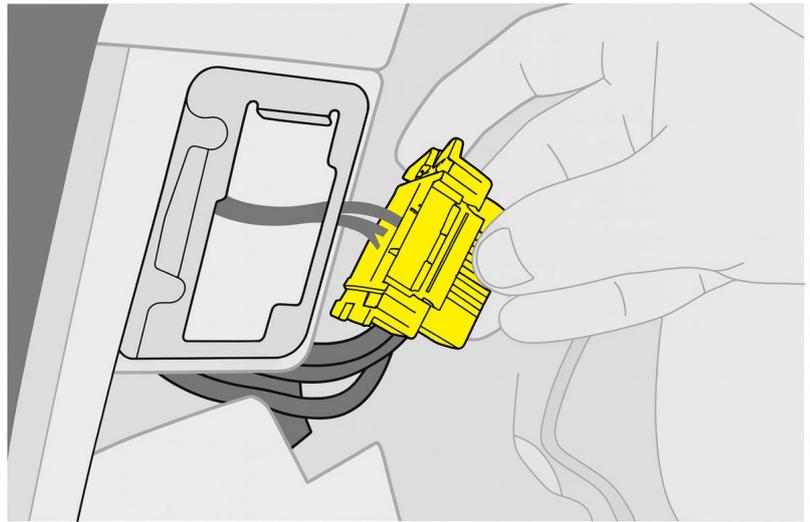
Lighting Adjustment

The following optional changes will move the turn signal to the reverse lights.
You should also change the color of the reverse lights by swapping the lamp or inserting a colored filter.

A replacement reverse light can be connected to the OEM trailer plug
or to the reverse light output on the optional trailer harness.

**If you do NOT want to use this feature, disable it in the interface settings
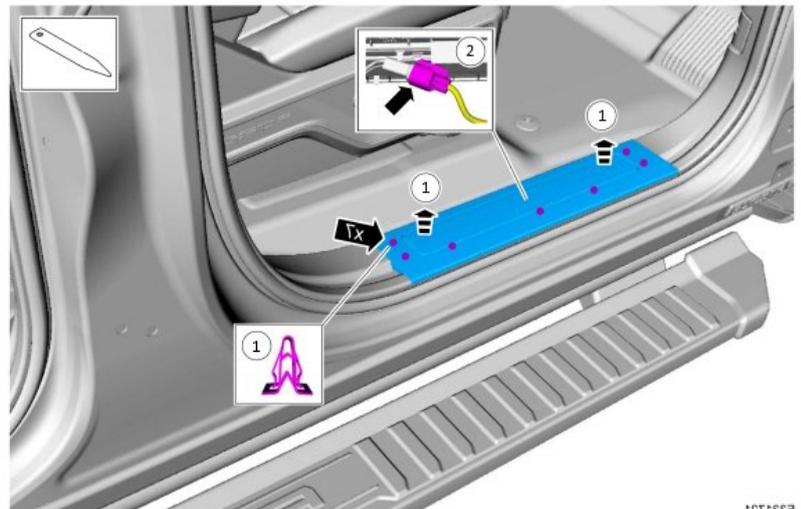with the BusBuster Loader PC program.
If left enabled, the vehicle will display lighting error messages.**
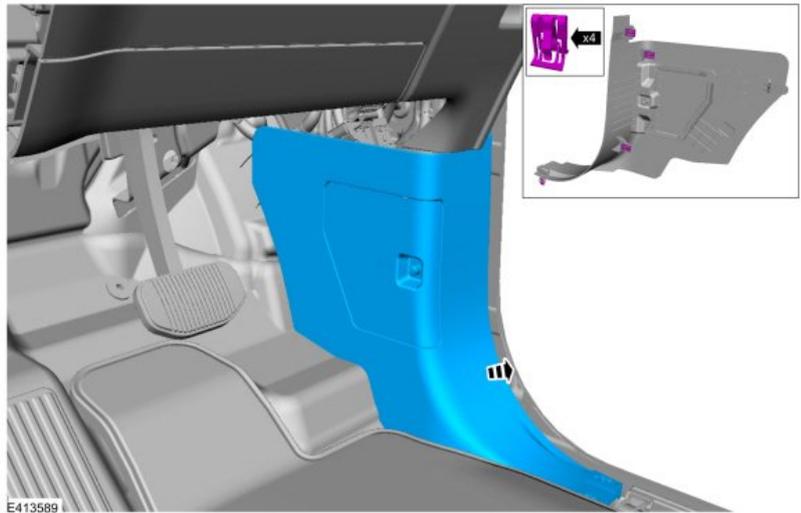
BCM Connections

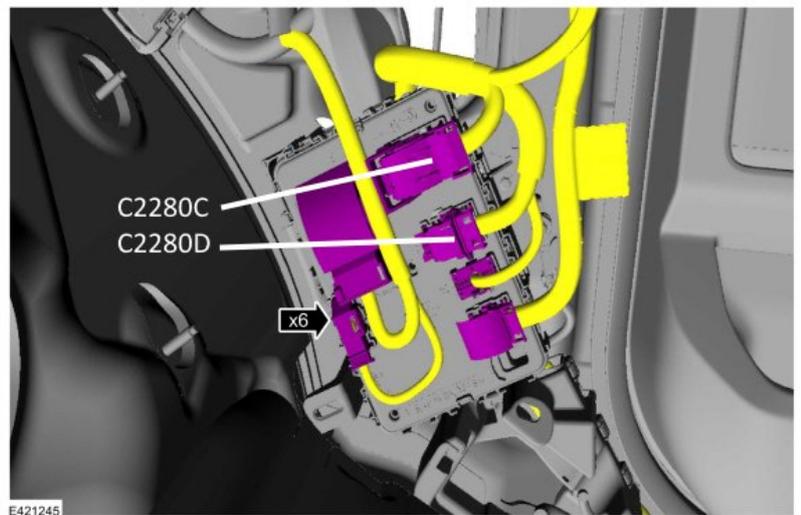Remove the passenger-side side panel.
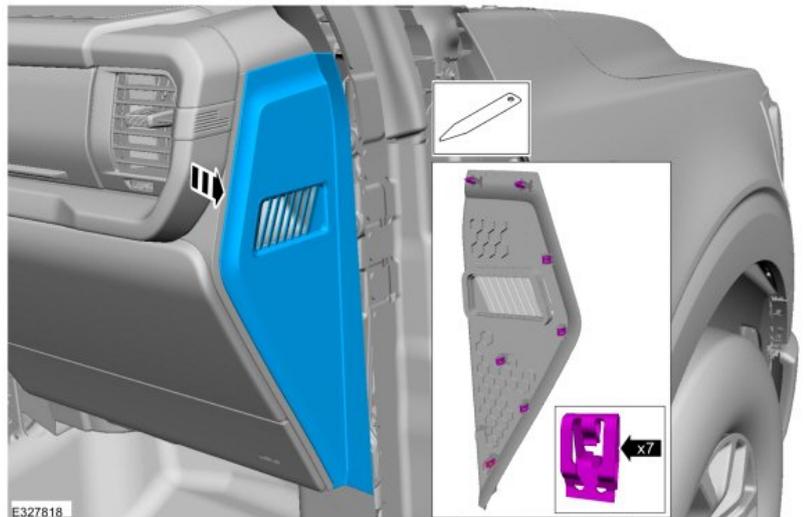
Remove the passenger-side doorstep panel.

Remove the passenger-side kick panel.

Unplug the C2280C and C2280D plugs.

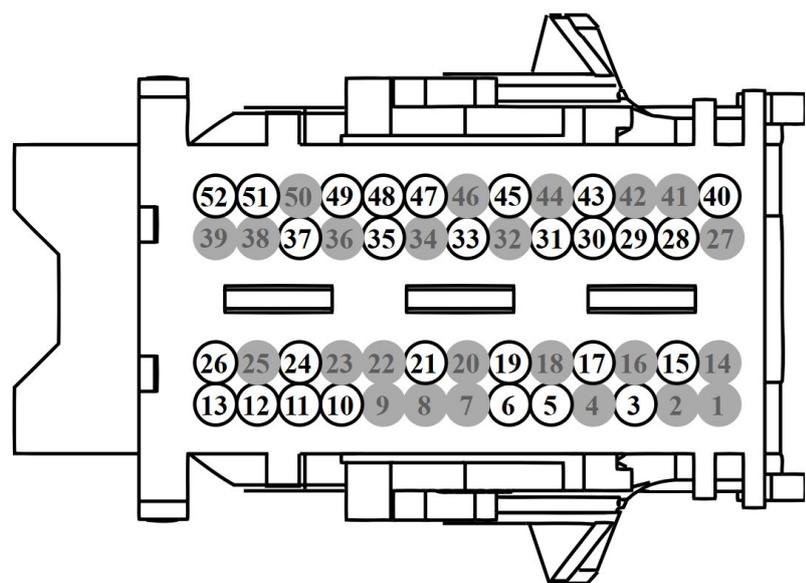Cut the following wires from C2280D:

- Pin 33 - Blue/Orange

- Pin 29 - Green/Blue

Connect the supplied short 2-wire loom.

C2280D	
Green	Pin 29 - Green/Blue, car side
White	Pin 33 - Blue/Orange, car side

If these pins are not wired, install wires from the C2280C (next step) connector to the tail lights.

Seen from front of connector.
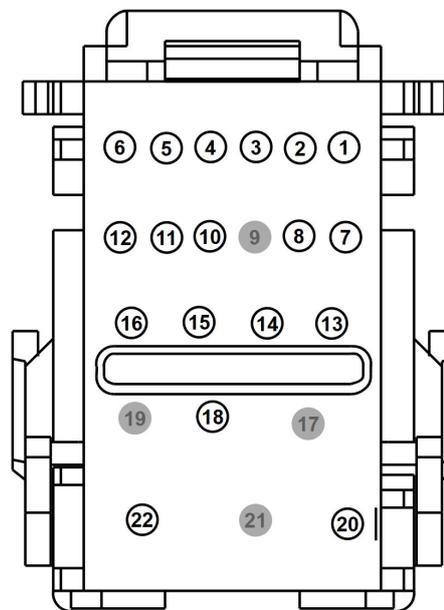Pin side, not wired side.

Route the 2-wire loom from the previous step to connector C2280C.
Plug in the 2 pins.

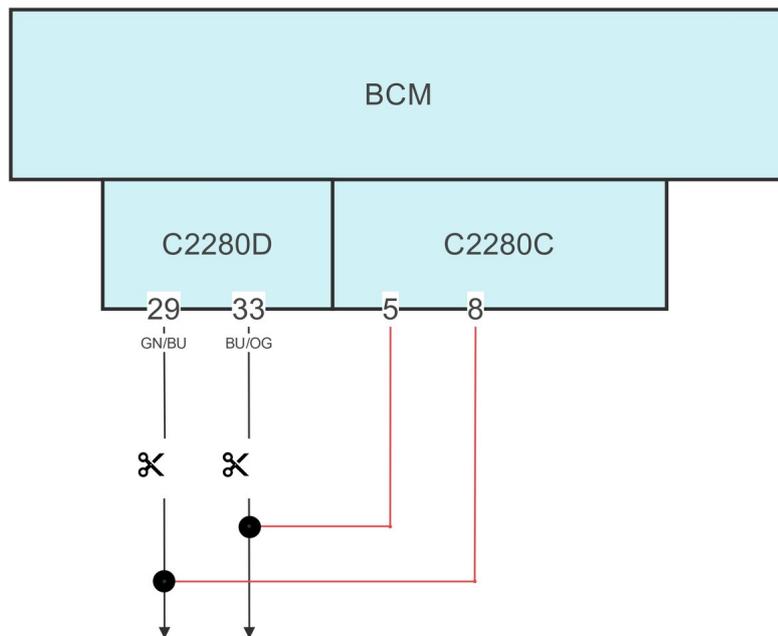| C2280C	
Green	Pin 8
White	Pin 5

Check if pin 4 is wired. If not, install a wire from here to the rear fog light.

Seen from the fron of connector.
pin side, not wired side.

Connection diagram:

Reinstall the removed trim around the BCM.

Tail Lamp Connections

Remove the tail lights by unscrewing the 2 screws.
Unplug the connectors.

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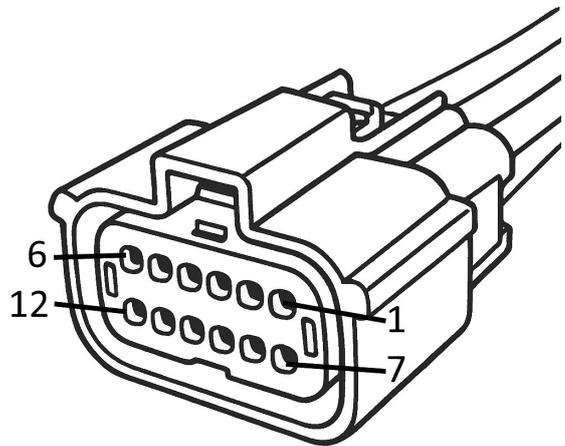Cut the following wires from the tail lamp connector:

Left Lamp

Pin 11 - Green/Blue
Pin 4 - Green/Brown

Right Lamp

Pin 11 - Blue/Violet
Pin 4 - Green/Brown

For both lamps:

- Connect the car-side pin 11 wire to the connector pin 4 wire.
- Isolate both loose wire ends.
- Reinstall the lamps.
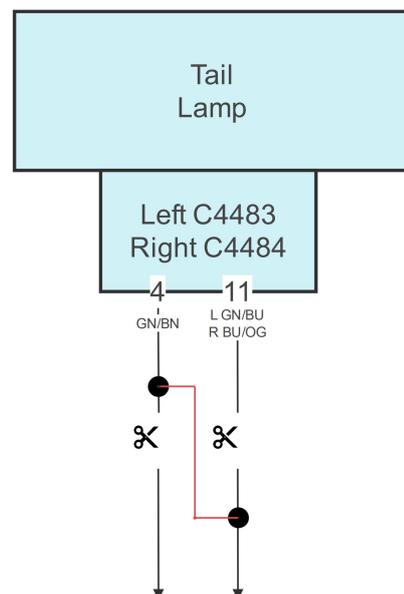
Rear Fog Lamp Connection

The rear fog signal can be found on connector C423, just above the spare tire.
Lower the spare tire for easier access.

Connect the added rear fog light to pin 5 (White/Blue) of the C423 connector.
Note:
In some vehicles this pin may not be wired.
If so, install a wire to the BCM.

Trailer Harness

The optional trailer harness can significantly reduce installation time.
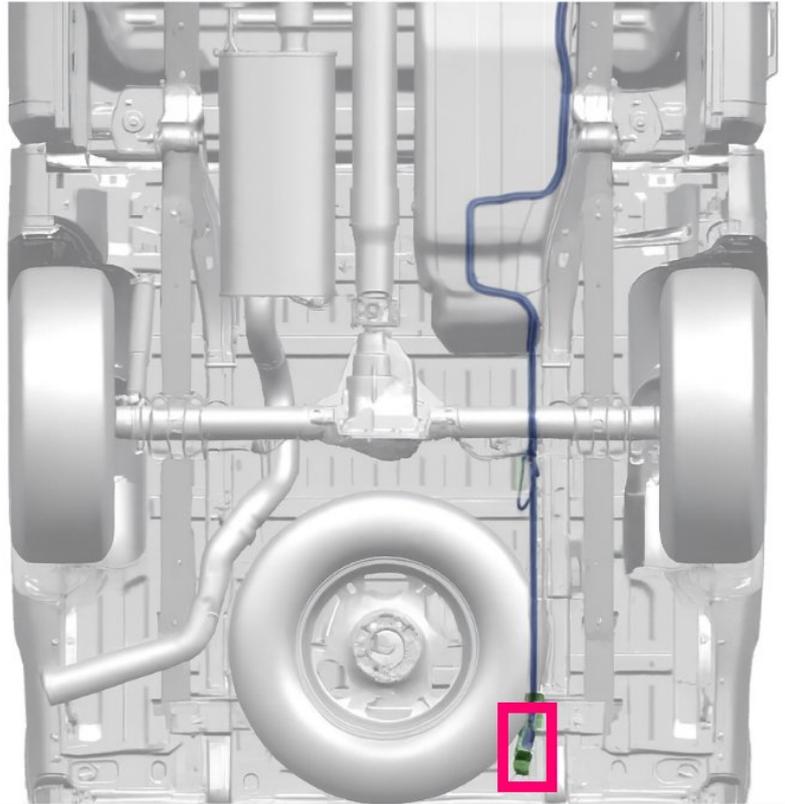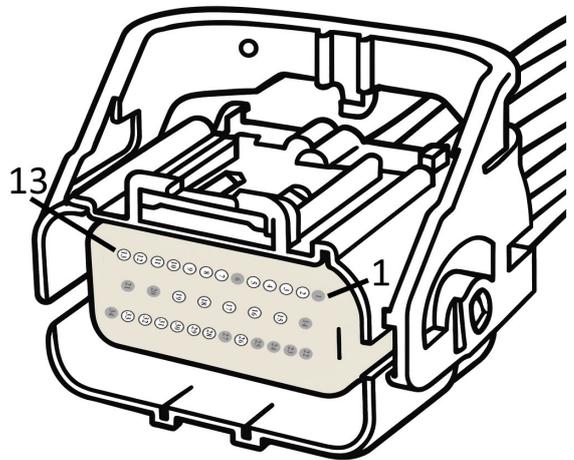
The harness connects directly to the connector behind the OEM trailer socket.
The other end contains loose pins that can be inserted into the free cavities of the BusBuster connector.

This allows for a fully functional EU trailer socket **without cutting or soldering any wires**.

Mounting Trailer Harness

- Unplug the connector from the rear of the OEM trailer socket.
- Connect the trailer harness in between.
- Mount the 13 EU trailer socket.
- Route the cable to below the rear bench, on the driver side.
- Remove the floor console below the rear seats, by removing the 4 bolts behind the caps.
- Remove the rear driver side doorstep panel.
- Position the carpeting away from the work area.
- Drill a hole in the plastic plate and feed the cable through.
- Ensure the cable passage is watertight.
- Route the cable to the BusBuster interface near the TRM module.
- Ensure the cable is securely mounted, and kept away from exhaust heat.
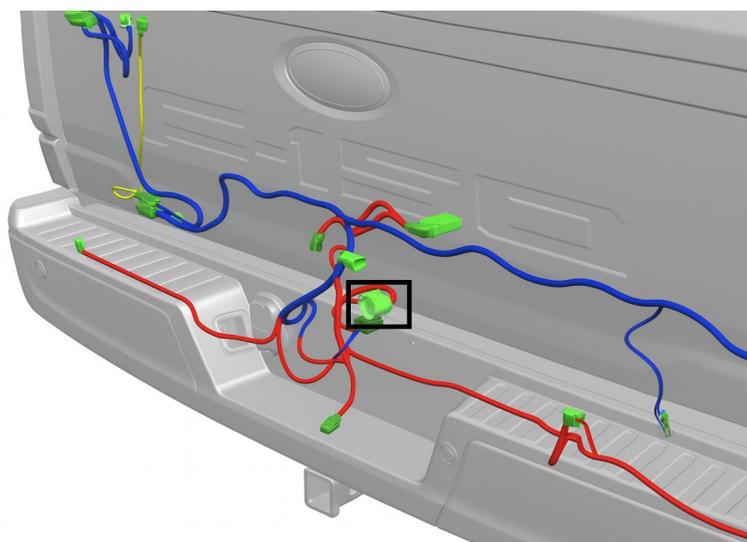
Connecting to BusBuster

Insert the 4 trailer harness wires into the BusBuster connector as shown below.

PIN	Color	Function
1	Red*	+12V Input
2	Grey	Trailer ACC output
3	Blue	Trailer fog light
4	Black*	GND input
5	Yellow	Trailer turn signal (left)
6	Green	Trailer turn signal (right)
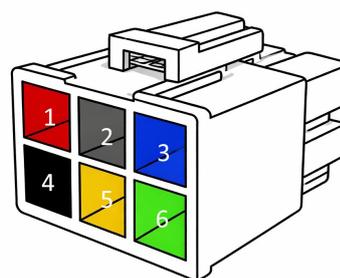
Note:
The red and black wires are pre-installed in the BusBuster connector.

The two additional loose wire outputs near the 7-pin socket provide an output for an additional vehicle reverse light.

This is typically used when the OEM reverse lights are repurposed as turn signals.

If the trailer harness is **not** used,
the connections can be wired manually.
Terminal P/N: **MOLEX 76823-0322**.

Wrap-Up

Ensure all connections are secure and neatly finish the wiring with tape or heat shrink.

Mount the BusBuster using the supplied double-sided tape pad
or with cable ties.

Erase all DTCs that may have been set during installation.

Verify all interface functions.

Usage

The interface makes almost all functions behave as if they were OEM.

The added rear fog light can be controlled in two ways:

- By the front fog switch (off → F on → F+R on → F on → off)
- By pressing the dimming-up and dimming-down switches at the same time.

Programming

With the BusBuster Loader PC software,
you can update the interface to the latest firmware.
It also allows you to perform various specific codings for
the interface.
To do so, open the software.
After it has flashed the interface, click **Advanced**.
Change the settings as required and click **Write** to save
them to the interface.
You can also save and load settings if you want to reuse
them for multiple cars.

Advanced Settings

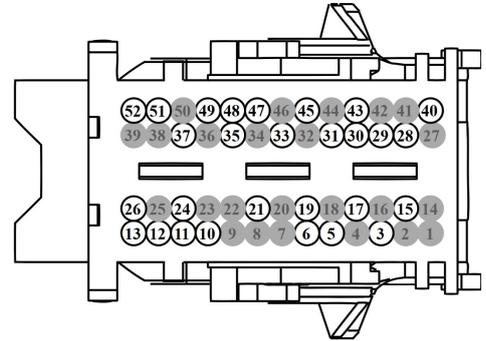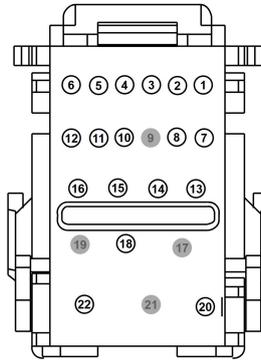| General	Default	Description
Enable Fault Detection	ON	Enables or disables trailer over- and under-current detection.
ACC Switch Selection	ACC	Selects when pin 10 (switched power) is powered.
ACC Time Add	0 min	Optionally keep it powered for extra time after turning off the car.

Codings	Default	Description
DAB Tuner	OFF	Enable only if the OEM ACM module has been replaced with an EU DAB tuner.
Disable Front Amber DRL	ON	Disables the amber marker lights in the front headlights, to comply with EU lighting regulations.
Split Tail Lights	ON	Moves the rear turn signals from the brake lights to a separate output.
Enable OEM Rear Fog	ON	Enables control and output for the rear fog light (requires LIN connection to the light switch).
Enable DRL on Low Beam	OFF	Uses the low beam headlights as DRL, keeping them on while driving.

Cheat Sheet

BCM	C2280C	C2280D

BCM

BCM

C2280D | C2280C

29 | 33 | 5 | 8
GN/BU | BU/OG

C2280C

6 5 4 3 2 1
12 11 10 9 8 7
16 15 14 13
19 18 17
22 21 20

Seen from the fron of connector.
pin side, not wired side.

C2280D

52 51 50 49 48 47 46 45 44 43 42 41 40
39 38 37 36 35 34 33 32 31 30 29 28 27

26 25 24 23 22 21 20 19 18 17 16 15 14
13 12 11 10 9 8 7 6 5 4 3 2 1

Seen from front of connector.
Pin side, not wired side.
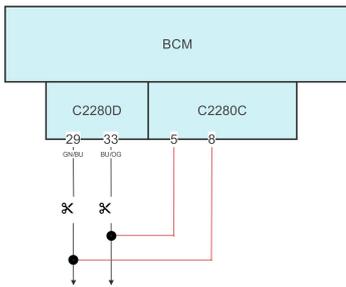
Tail Lamp	Tail Lamp Connector

Tail Lamp

Tail
Lamp

Left C4483
Right C4484

4 | 11
GN/BN | L GN/BU
| R BU/OG

Tail Lamp Connector

6
12
1
7